INDEX TO VOLUME 164, JANUARY—JUNE, 1941

Animal and Plant Breeding, Colchicine in Animal Diseases, Phenothiazine for Apple Trees, Dwarf Cattle Food Cotton Seeds, De-Linting		12	Macelwane, Rev. James B. Martin, Glenn L.	5 15	FOODS	
Apple Trees, Dwarf Cattle Food Cotton Seeds, De-Linting	n 10	39	Supplee, Dr. George C.	9		202
Cotton Seeds, De-Linting	10		Supplee, Dr. George C. Whitney, C. V.	69 133	Frankfurts, Tender	239 228
	10		Zworykin, Dr. Vladimir K.	133	Frozen Food Packages	224
Fertilizer from Petroleum	3	35	BIOLOGY		Milk, Homogenized Oil, Infusing Edible	199
Insect Spray Plant Food (Plant Dinner)	29	91 25		7		
Root Growth Stimulant (Transplantone	1	72	Animal Longevity Eye, Light Sensitiveness of	155	FORESTRY	
Soil Sterilization Tree Blossoming, Preventing Tuberculosis in Cattle	. 10					220
Tuberculosis in Cattle	. 10	05	BUILDING CONSTRUCTION		Cork Growing in U. S. Tree Health, Estimating	357
Turf Disease, Controlling	1	73	Heating, Panel	34	Tree Health, Estimating Wood Bending, Permanent 19,	232
			Heating, Panel Welded House	226 145	Wood Preserving Wood Replaced by Substitutes	145
AIR CONDITIONING. See Heating and			Wood Replaced by Substitutes	143	•	
Ventilating.			BUSINESS		FUELS	
POUROLOGY ANTHRODOLOGY OF	4		Dictating Machines, Electric 40,	104	Alcohol, High-Cost Motor Fuel	299
ARCHEOLOGY, ANTHROPOLOGY and ETHNOLOGY			Downward Trend After War	275	Motor Alcohol, Swedish	167
Ancient Building Methods	3	40	Dress Design Piracy	62		
Folsom Man	3	42	Filing System, Vertical Recordings, Rights to Phonographic	62	GEOLOGY	
Highbrows, Myth of	2	33	Sales Education	293	Earthquakes, Cause of	285
Prehistory, American Psusennes, Egypt's King	1	52			Tektites Still a Puzzle	354
Psusennes, Egypt's King	6,	27	CHEMISTRY		GLASS	
Wah, Egyptian Mummy Wolf Children, India's	1	35	Chemical Industry, Progress in	95		10
,			Enamel, Acid Resistant Fats and Oils, Preserving	98 106	Glass Cloth in Airplanes	18: 239
ARMY and NAVY			Glycerin from Petroleum Melamine, Development of	92	Glass Cloth in Airplanes Glass Insulated Diving Suit	41
		2	Melamine, Development of	204	Glass-Plastics Competition	95. 93
Battleships, New U. S		3 12	Microchemical Equipment Oil, Substitute for China Wood	20 94	Insulation, Electrical	238
Machine Gun (Reising)	1	49	Paper Coating, Moisture-Proof	167	Microscope Cover Slips	41
Merchant Marine, Importance of Motor Torpedo Boats 2	50 2	86 81	Plaster, Gypsum Tung Oil in United States	172	Plate Glass, High-Light-Transmitting Pump, Corrosion-Proof	143 336
Navy Comparison, U. S. and Japanese.	1	48	a ung On in Omittu States	.14	Safety Glass (Flexseal)	206
Tugs, Navy	1	49	ELECTRICITY		Vacuum Sealed Containers	295
			Currents in Light Beam	299	HEATING and VENTILATING	
ASTRONOMY			Dictating Machines, Electric 40	. 104		
Atlas, Solar Spectrum		56	Door Control, Photo-Electric	337	Air Conditioning, "Reverse" Heater and Fan Combined	101 293
Comet, Cunningham Double Star, Interpretation of		45 76	Facsimile Telegraphy, Paper for Fuse, Protected	98	Heating, Panel	34
Earth, Shape of	3	44	Generators at Grand Coulee Hearing Aid, Vacuum-Tube Insulating Tubing, Varnished	358	Heating and Cooling Unit, Home	171
Planetarium, Hagner	2	96	Hearing Aid, Vacuum-Tube	292 239	Humidifiers, Home Humidity, Home	33 285
Planetarium, Small Star, Brightest Known	1	22	Insulation, Glass Insulation Test, Wire	238	Odor Adsorbers for Air Conditioning	296.
Stars, White Dwarf	2	16	Insulation Test, Wire	206		
Sun Spot Distribution 200-Inch Telescope, Photograph of	***	82 23	Lighting in Home, Economical Plug, Self-Anchoring Attachment	170	INDUSTRY	
200-inch Telescope, Photograph of	***	23	Porcelain Insulation, New	269	Balancing Machine, Sensitive	207
AUMONODU DO			Power Plant, Floating Power Plants, Expansion of	88 145	Ball Bearings, Checking	92
AUTOMOBILES			Record Player, Home Recording	236		272 19
Brake Linings, Synthetic	1	172	Sound Recorder in Business	293 43	Blast Cleaning Machine	273
Brake Whistle Fenders, Rubber	2	228	Sterilizing Lamp Timer, Electronic	19	Brazing Method, Economical	332 330
Race Car, Rear Engine	2	294	Wiring Problems, Solving	100		338
Tractor-Scraper, Rubber Tired Trucks for National Defense	3	299 149			Cork Growing in U.S. Designing, Industrial	338
Vehicle Statistics	1	06	ELECTRON MICROSCOPE		Dies, Lubricating Extrusion	298
			Industrial Uses of	155	Enamel Thickness Gage	207
AVIATION			Paper Study	300	Engraver, Pantographic	91
		.62	Soap, Fibers in	220 358	Frequency Meter, Vibrating	19
Aerial Warfare, Book on Aircraft Plant, Boeing		15			Gear Checking, Device for	134
Aircraft Speed-Up for Defense Blind Flying Training		14	ENGINEERING, CIVIL and MECHANIC	CAL	Gum Imports Lifting Device, Vacuum Cup	43
Blind Flying Training Bomber Douglas B-19	2	85			Lighting, Fluorescent Medicinal Products from the Sea	266. 74
Bomber, Douglas B-19 Bomber, German Heinkel	198, 2	230	Bank Graded in Terraces Blueprints, Pencil Drawing	173 293	Melamine, Development of	204
Color-Blind Fivers Needed	1	103	Blueprints, Pencil Drawing Culverts, Pressure Creosoted Wood	296	Nut, Self-Locking	100
Communication, Strides in Control Surfaces, Plastic	1	305 160	Generators at Grand Coulee	358 288	Optical Industry, Developments in Porcelain Coatings, New	89 36
Crash, Blame for Engine Cylinders, Painted	3	304	Gold Mining, Electrical New York Water Supply Aqueduct	24	Porcelain Insulation, New	269
Engine Cylinders, Painted Fighter Plane, Vought-Sikorsky	2	207 161	Power Plant, Floating	88	Pressure Vessels, Safer	94
Flying Suits, Electrically Heated	1	107	Sand Dunes, Stabilizing	359	Rayon, Technical Aspects of	16
Fuel Tanks, Self-Sealing	2	214	Smoke Stacks, Repairing	33	Shield, Face, for Workers	94
Light Planes Engines for	. 2	12 365			Shield, Face, for Workers Steel Strip, Gaging Synthetic Film (Koroseal)	20 271
Mass Production of Airplanes	1	60	FIREARMS		Test Rig, Variable Speed Timer for Industrial Operations	208
Mechanics, Military Plane Observer, Robot Photographic		212 84	Cleaning Guns	118	Timer for Industrial Operations Tubes, Automatic Shaper for	19 143
Parachutes Studied Photographically		85	Cleaning Guns Firearms Legislation 116	5, 259		338
Plane Location by Radio	5	303				336
Private Planes, Future of	3	339 215	Mossberg Rifles, 1941 Muzzle Loader, Handmade	117	Vitamins, Production of Water Tester, Boiler	209 94
Progress in 1940	2	258	Rifle Range, Running Deer	52	Welding Aids Machine Tools	93
Progress in 1940	1	84	Shotgun Preferences Shotguns, Damascus Barrelled	374	A-Rays in Industry	138
Progress in 1940	3	304	Sporting Arms, Wartime Production of	311		
Progress in 1940. Pursuit Planes, P-26's. Research in Aeronautics. Seaplane Air Lanes. Sport Plane to Military Trainer		161	Targo Wing Shooting Practice	53 310		
Progress in 1940. Pursuit Planes, P-26's. Research in Aeronautics. Seaplane Air Lanes. Sport Plane to Military Trainer Stratosphere Conditions Simulated			,	5.0	Poison SprayRotenone Insecticide	291
Progress in 1940. Pursuit Planes, P-26's Research in Aeronautics Seaplane Air Lanes. Sport Plane to Military Trainer Stratosphere Conditions Simulated Supercharging the Pilot. War Planes, Quality in	3	302 278				71
Progress in 1940. Pursuit Planes, P-26's Research in Aeronautics Seaplane Air Lanes. Sport Plane to Military Trainer Stratosphere Conditions Simulated Supercharging the Pilot. War Planes, Quality in	3	278 365	FISH and FISHING		Rotenone Insecticide	
Progress in 1940 Pursuit Planes, P-26's Research in Aeronautics Seaplane Air Lanes Sport Plane to Military Trainer Stratosphere Conditions Simulated Supercharging the Pilot	3	278		249		
Progress in 1940. Pursuit Planes, P-26's Research in Aeronautics Seaplane Air Lanes. Sport Plane to Military Trainer Stratosphere Conditions Simulated Supercharging the Pilot. War Planes, Quality in	3	278 365	Boots, Fishermen's Electric Shocker, Research with	248 223	LIGHT	
Progress in 1940. Pursuit Planes, P-26's Research in Aeronautics Seaplane Air Lanes. Sport Plane to Military Trainer Stratosphere Conditions Simulated Supercharging the Pilot. War Planes, Quality in	3	278 365	Boots, Fishermen's Electric Shocker, Research with Leader Material (Vec)	117	LIGHT	266
Progress in 1940. Pursuit Planes, P-26's Research in Aeronautics Seaplane Air Lanes. Sport Plane to Military Trainer Stratosphere Conditions Simulated Supercharging the Pilot. War Planes, Quality in. Welding, Aircraft. Wind Tunnel, Wright Field. BIOGRAPHY and PORTRAITS Arnold, Gen. H		278 365 364	Boots, Fishermen's Electric Shocker, Research with Leader Material (Vec) Leaders, Nylon Outboard Motor for Fishermen	374	LIGHT Fluorescent Lighting, Industrial Fluorescent Lighting, Rating of Hichway Lighting	35
Progress in 1940. Pursuit Planes, P-26's Research in Aeronautics Seaplane Air Lanes. Sport Plane to Military Trainer Stratosphere Conditions Simulated Supercharging the Pilot. War Planes, Quality in. Welding, Aircraft Wind Tunnel, Wright Field. BIOGRAPHY and PORTRAITS Arnold, Gen. H Doisy, Ed	3	278 365 364	Boots, Fishermen's Electric Shocker, Research with Leader Material (Vec) Leaders, Nylon Outboard Motor for Fishermen	374	LIGHT Fluorescent Lighting, Industrial Fluorescent Lighting, Rating of Hichway Lighting	35
Progress in 1940. Pursuit Planes, P-26's Research in Aeronautics Seaplane Air Lanes. Sport Plane to Military Trainer Stratosphere Conditions Simulated Supercharging the Pilot. War Planes, Quality in. Welding, Aircraft. Wind Tunnel, Wright Field. BIOGRAPHY and PORTRAITS Arnold, Gen. H	3	278 365 364	Boots, Fishermen's Electric Shocker, Research with Leader Material (Vec)	374	LIGHT Fluorescent Lighting, Industrial Fluorescent Lighting, Rating of Hichway Lighting	356 360

MARINE		Pyrex Trademark Secret Use of Patented Machine	63	RADIO	
Boat, Plastic	172	Secret Use of Patented Machine Thermostat Patent	126 126	Aviation Communication, Strides in	305
Boat, Plastic Boat, Plywood 29:	2, 357 235			Crystals, Control, How Made Frequency Modulation	96
Boat Fittings, Monel Boat Speed Indicator	168			Ground Wires, Burying	26
Car Ferry, Largest Engine, Economical Marine	230 292	PHOTOGRAPHY and MOVING PICTU	RES	KDKA, Antenna at	
Merchant Marine, Importance of Propulsion Gear, Diesel	86	Angle the Easel	308		
Propulsion Gear, Diesel	230	Animating "Dot" Books Bed, Sliding	369 113	RAILROADS	
		Bottles, Dark-Room	244		
MEDICINE		Camera Adapter (Rollei) Candid Pictures		Freight Locomotives, Diesel Locomotive for Coal Mines	209
Acne, Cause of	348	Color How to Use	110	Locomotives, Fireless Steam Railroads in National Defense	30
Aniseikonia, Detecting	291	Color Photography, Books on Color Photography, Snow Color Prints (Curtis Process)	48 176	Railroads in National Defense Truck Shuttles Railroad Cars	146
Bathrooms, Germ-Free	287 202	Color Prints (Curtis Process)	49	Truck Shuttles Ramond Cars	
Blind, Restoring Sight of	76	Colors, Gray Equivalents of	242		
Body Cells, Regeneration of Bones, Easily Broken	362 10	Contest, Raygram Contest, Scientific American, Winners	48	RAYS	
Brain Temperature, Lowering	76	Contest, Scientific American, Winners Contest, 6th Annual Scientific American	112 368	Gamma Rays Inspect Castings	270
Cross-Eyes, Testing Eye Diseases, Diagnosing	99 348	Contrast, Emphasizing	367	Gamma Rays Locate OilX-Ray Analysis of Metals	352
Eves, Treating Diseases of	89	Contrasty Subjects, Developing Cropping Improves	307 369	X-Rays in Industry and Medicine	
Frozen Sleep Therapy. Hearing Aid, Vacuum-Tube.	286 292	Densitometer for Movie Flim	36		
Infantile Paralysis, Operation for	202	Developer Hint, Amidol Diffusion Kink	177 47	RESEARCH	
Iron Lung. Married Couples, Diseases of	42 76	Dogs Can Pose	307		
Nerves, Uniting Cut	202	Enlarger Bulb, SpareFantasia, Details of	242 28	Atom Smashing: Two Methods Chemical Industry, Progress in	282
Pellagra, Diagnosing	170 347	Film Pack Adapter	178	Chronoscope, Bullet Timing	143
Pregnancy Test, Skin	346	Flash Gun, Low-Priced (Kalart)	46 244	Fungi, Conquering	162
Schizophrenia, Operation for	. 10	Fluorescent Lighting, Rating of	50	Manometer, Direct Reading	100
Sterilizing Lamp	21	Ghosts Gunning for	370	Petroleum Research, Extent of	283
vitamin K, value of	. 340	Glass, Marking	351	Sound-Proof Chambers	101
Vitamins from Fish Livers	74	Indoor Photography	243	Stable Economy from Planning	81
		Infra-Red Photography Intensifying Prints	177		
METALS and METALLURGY		Intensifying Prints Kaleidoscope, Stunts With	177	ROADS	
Age Hardening, Preventing Premature Aluminum, Defense Priorities in	237	Kodachrome Processing Landscapes, Figures in	370 179	Highway Lighting	. 226
Aluminum, Defense Priorities in	196 45	Landscapes, Figures in	19,243 241	Highway Stripe, Glass Beads in	298
Aluminum Solder Fronties in Aluminum Solder Bessemer Process, Photo Cells in Chromium Plate, Testing Chromium Plating, Hard Columbium in Allum	43	Lectures, IllustratingLighting for Scientific Movies	176		
Chromium Plate, Testing	335	Methods, Learning New	369	RUBBER	
		Movie Makers, Amateur	174		
Copper, Heat Treating	440	Movie Titles, Motion in	366	Age Resisters (Duramin)	273 145
Dies, Alloys for Plastic Molds Extruding Process, British	91	Movie Work, Single-Frame Photo Effect on Calcimine	176 48	Electricity-Conducting Rubber	107
Foil, Substitute for Aluminum	334	Photo Finishes, Racing	32	Hose, Lightweight Garden	232
Metallic Foil, Adhesive	107	Police Restrictions	178 49	Rubber-Neoprene Test	
Metallizing Gun, New	272	Printing Bulb. 3-Way	243		
Monel Doctor Blades	274	Prints, Rubber Cement for Prints, Waxing	367 308	SAFETY	
Tantalum in Surgery	21	Rubber Cement, Saving	1/9		
Thermostat, Small Industrial Tin, Substitutes for	20 275	Safelights, Home-Made	180 369	Fire Extinguisher Seal	294
Tinning, New Cold Process	. 34	Shadows, Foregound	176	Gas Alarm, Explosion 1 1001	
X-Ray Analysis of Metals	. 44	Sinks, Acid-Proofing	308		
		Solutions, Mixing	308	TEXTILES	
MISCELLANEOUS		Sound Projection	370	Flax, Substitutes for	99
Amateur Scientists	343	Sound Tracks, Multiple Table Top Background	242	Rayon, Technical Aspects of	3. 238
Astrology Denounced	231	Texture Subjects, Copying	179	Synthetic Silk (Vinyon)	205
Books, Technical and Scientific Decimalizer		Three Color Printing		Wool Fabrics, Labeling	289
Deodorant for Refrigerator	. 35	Water in Solutions, Pure	179		
Diving Suit, Glass Insulated Ducks, Lead Poisoned, Saving	357			TOOLS	
Fire Extinguisher Seal	. 294	PHYSICS		Boring Mill, 350-Ton	14
Kitchen, Cabinet Lightning, "Fossil"	234			Hand Drill, Electric	99
Lock Washer, Toothed	169	Atom Smashing: Two Methods	282 68	Hand Tool, Electric Reciprocating	103
Magazines, Scienting, Number of	. 109	Dowsing, Study of	132	Lathe, Toolroom	20
Nylon Racket Strings Pencil Sharpener, Electrical	. 292	Friction, Basic Facts About	. 78	Miter Cutter	4
Press, Hand Printing (Laszlo)	. 228	Light Polarizer, Molecular	. 153	Pliers, Automatic Locking	23
Quicksand Scientists, Rating of World	358	Photometer, Spectrographic	. 81		
Shoe Soles, Invisible Half	. 98	Reflectometer	. 336		
Skua, Antarctic Tektites Still a Puzzle	354	Sound, Speed of		WAR	
Timekeeping, Accuracy of	. 71			Aluminum, Defense Priorities in	19
Whippoor-will Wire Holder	. 38			Ammunition Counter, Aerial Gunner's Barbed Wire Torpedo	22
		PLASTICS		Blackout Factories15	5, 14
OII and LUBBICATION		Extruded Molding, Plastic		Blackouts, Interior Lighting for Bomb Blasts, Ear-Protection Against	31
OIL and LUBRICATION		House NumbersLighting Fixtures of Plastic	. 361	Bomb Resistant Windows	10
Gamma Rays Locate Oil	352	Magnifier, Molded Meta! Saving with Plastics	356	Bomb Sight, German	26 8
Lubricant, Detergent Oil Well Casing, Running	290 326	Meta! Saving with Plastics	. 335	Bomber, German Heinkel 198	8, 23
Oil Wells, Horizontal	294	Nylon is a Protein	132	Britain, Arms for	37
Petroleum, Future of	275 218	Plastics Glass Competition	. 95	Mystery Guns	10
		Shirt Fronts, Plastic	. 35	Railroads in National Defense	14
DATEMO 4 WARRESTED		Tiles, Plastic	. 92	Tanks, Rubber Tracks for. Tanks, Solid Shot Against.	29
PAINTS and VANISHES		Water Purification with Plastic	337	Tanks, Solid Shot Against Tractor, Versatile	29 14
Aluminum Paint Elastic Paint, Moisture Proof	. 93			Trucks for National Defense	. 34
Elastic Paint, Moisture Proof Enamel, Acid Resistant	. 98			War Lessons from Britain	27
Enamel Thickness Gage	. 207	PSYCHIC RESEARCH		wai riance, Quanty in	41
Fire-Resistant Paint	239	Ericson, Rose Anne, Medium 20	53, 327		
Shellac Fortifier	. 206	Psychic Investigation, Scientific America	an 210	WELDING	
Wet Surface Paint	108	Queen Elizabeth's Spirit	203	Aircraft Welding	. 36
		End		Aircraft Welding	. 33
		1-00-0			
PATENTS, COPYRIGHTS and		PSYCHOLOGY		House, Welded	27
PATENTS, COPYRIGHTS and TRADE MARKS Ice Chipping Machine, Fatent on		PSYCHOLOGY Civilization, Future of Employment, Intelligence in	221	House, Welded. Multiple Spot-Welding Machines. Smoke Stacks, Repairing. Spot Welding Timer. Welding Aids Machine Tools.	27